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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,009	11/19/2001	Sergei F. Kolomeitsev	VMA-506-A	5694

7590

08/13/2003

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EXAMINER

ELKASSABGI, HEBA

ART UNIT PAPER NUMBER

2834

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/993,009

Applicant(s)

KOLOMEITSEV ET AL.

Examiner

Heba Elkassabgi

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05-30-2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16,17,22,26 is/are allowed.
- 6) ☒ Claim(s) 1-9,11-14,21 and 23 is/are rejected.
- 7) ☒ Claim(s) 15,18-20,25,27 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04/02/03 is/are: a) ☒ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

In view of Applicant's response to Final Office Action, the examiner is withdrawing the finality of the application and is issuing a Non-Final Action as follows.

Drawings

The corrected or substitute drawings were received on 04/02/03. These drawings are acceptable for examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 15,16,17,22, and 26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art as which is the first constant radius. The examiner will assume that the first constant radius is the outer circumferential radius of the rotor yoke. No new matter should be entered.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

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Claim #1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim #1 the “depressed portions along a radially –outer peripheral edge” does not clearly describe as to which edge the applicant is claiming whether it is the rotor yoke or the permanent magnet. It is respectfully requested that the applicant to further clearly state which edge in the claim language. No new matter should be entered.

Claims 15,16,17,22, and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In the claim limitation “the plurality of depressions shaped to the motor” and “ a first constant radius” in claims 15,16, 17, and 26 needs to be describe in a full, clear, concise, and exact terms as to the shape of the depressions. No new matter should be entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1,2,6,7,8,9,11,12,13, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buckley et al. (U.S. Patent 4782272) and further in view of Kliman et al. (U.S. Patent 5345130) and Iwamatsu et al. (U.S. Patent 5302876).

Buckley et al. Discloses an electrical motor in which a rotor yoke (4) having a permanent magnet ring (3) attached onto the rotor yoke (4). The permanent magnet ring (3) includes a uniformed plurality of circumferentially spaced six poles and a radially-inner peripheral edge of the permanent magnet ring (3) having a constant diameter. In which the rotor yoke (4) and the permanent magnet ring (4) is an annular member and that the permanent magnet includes depressed portions along a radially –outer peripheral edge and that each pole is tapered along each depressed portion and that the depressed portions form an apex of a triangle. However Buckley et al. does not state that the depressed portions of the magnet produce a sinusoidal flux and that the rotor core is of stacked laminations.

Kliman et al. discloses in Figure 1b and 5 a permanent magnet motor having a rotor (14) and a permanent magnet ring (16), in which a rotor core (14) having a permanent magnet ring (16) is attached and that the permanent magnet ring (16) is ring shaped. Figure 5 discloses a rotor core (30) having depressed portions (32) within the rotor core (30) in which Kliman et al. states, that a sinusoidal flux distribution is desired for position control machine and that the desired flux distribution about the permanent magnet motor is optimized by suitably shaping the rotor core.

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Iwamatsu et al. Discloses an electric motor having permanent magnets (12) assembled onto the rotor core (14) and the rotor cores (18) is of stacked laminations (10') in order for the magnetization of the auxiliary permanent magnets are arranged to the rotor core to be individually performed for each of the rotor core units.

In regards to claim #9 the permanent magnet ring being a pressed permanent magnet ring is a method of forming the device, which is not germane to the issue of patentability of the device itself. Therefore, the limitation has not been given patentable weight.

In regards to claim #13 it would have been obvious by one having ordinary skill in the art at the time the invention was made to choose a suitable material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

In re Leshin, 125 USPQ 416.

Allowable Subject Matter

Claim 10, 15, 16, 17, 18, 19, 20, 22, 24, 25, 26, 27, and 28 are allowed.

Claims 10, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Independent claim 15 and dependent claims 18-20,25,27,28 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

The following is an examiner's statement of reasons for allowance for claim 15: Prior art does not disclose a permanent magnet ring that is adhered to the rotor yoke, the permanent magnet ring including a plurality of circumferentially spaced poles of the rotor yoke and the permanent magnet ring having a radial edge opposed to the rotor yoke, the radial edge having a constant radius. One of the rotor yoke and the permanent magnet ring including a the rotor yoke having a plurality of depressions along a peripheral edge adjacent the permanent magnet ring; and the plurality of depressions shaped so the motor produces a sinusoidal flux density during operation.

Claims 16,17,22,and 26 would be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Response to Arguments

Applicant's arguments, filed 05/30/2003, with respect to the rejections of claims 1-28 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new grounds of rejection is made in view of interpretation of claims and applicants amendment of claims.

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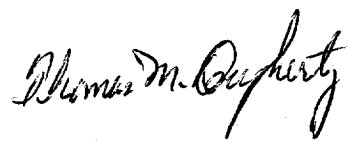
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heba Elkassabgi whose telephone number is (703) 305-2723. The examiner can normally be reached on M-Th (6:30-3:30), and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HYE
07/23/03


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